



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No. **VA0091383**
Effective Date:
Expiration Date:

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM AND THE VIRGINIA STATE
WATER CONTROL LAW, AND TO PRODUCE OR DISTRIBUTE RECLAIMED WATER UNDER
THE WATER RECLAMATION AND REUSE REGULATION

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I – Effluent Limitations and Monitoring Requirements, Part II – Conditions Applicable To All VPDES Permits, Part III – Biosolids, and Part IV – Standards and Special Conditions for Reclamation and Reuse, as set forth herein.

Owner Name: Loudoun Water Sanitation Authority d/b/a Loudoun Water
Facility Name: Broad Run Water Reclamation Facility
County: Loudoun
Facility Location: 44961 Loudoun Water Way, Ashburn, VA

The owner is authorized to discharge to the following receiving streams:

	<u>Outfall 001</u>	<u>Outfall 002</u>	<u>Outfalls 003, 004, 005, and 006</u>
Stream Name:	Broad Run	Broad Run, UT	Broad Run, UTs
River Basin:	Potomac	Potomac	Potomac
River Subbasin:	Potomac	Potomac	Potomac
Section:	8	8	9
Class:	III	III	III
Special Standards:	PWS	PWS	None

Thomas A. Faha
Director, Northern Regional Office
Department of Environmental Quality

Date

A. Effluent Limitations and Monitoring Requirements**1. Outfall 001 – 11 MGD Facility**

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. In addition to any Total Nitrogen or Total Phosphorus concentration limits (or monitoring requirements without associated limits) listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN010017, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.
- c. During the period beginning with the reissuance date of the permit and lasting until the expiration date or the issuance of the Certificate to Operate (CTO) for the 22 MGD facility, whichever occurs first, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

d.

Parameter	Discharge Limitations				Monitoring Requirements			
	Monthly Average ⁽¹⁾		Weekly Average ⁽¹⁾		Minimum	Maximum ⁽¹⁾	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NL		NA		NA	NL	Continuous	TIRE
pH	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
COD	10 mg/L	420 kg/day	15 mg/L	620 kg/day	NA	NA	1/D	24H-C
Total Suspended Solids, TSS	1.0 mg/L	42 kg/day	1.5 mg/L	62 kg/day	NA	NA	1/D	24H-C
Total Kjeldahl Nitrogen, TKN	1.0 mg/L	92 lb/day	1.5 mg/L	140 lb/day	NA	N/A	1/D	24H-C
Dissolved Oxygen	NA		NA		6.0 mg/L	NA	1/D	Grab
Turbidity	0.5 NTU		NA		NA	NA	3/D 8H	Grab
<i>E. coli</i> (Geometric Mean)	<2 n/100 mL		NA		NA	NA	1/D	Grab
NO ₂ + NO ₃ as Nitrogen	NL (mg/L)		NA		NA	NA	1/W	24H-C
Total Nitrogen ⁽⁴⁾	NL (mg/L)		NA		NA	NA	1/W	Calculated
Total Nitrogen – Year to Date ⁽⁵⁾	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Nitrogen – Calendar Year ⁽⁵⁾	4.0 mg/L		NA		NA	NA	1/YR	Calculated
Total Phosphorus	0.1 mg/L	9.2 lb/day	0.15 mg/L	14 lb/day	NA	NA	1/D	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽³⁾	NA		NA		NA	NL	1/YR	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽³⁾	NA		NA		NA	NL	1/YR	24H-C
Total Recoverable Zinc ⁽⁶⁾	150 ug/L		150 ug/L		NA	NA	1/M	Grab
Dissolved Zinc	NL (mg/L)		NL (mg/L)		NA	NA	1/M	Grab
Total Hardness (as Calcium Carbonate) ⁽⁶⁾	NL (mg/L)		NL (mg/L)		NA	NA	1/M	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/D = Once every day.

⁽²⁾ The design flow is 11 MGD.

NA = Not applicable.

1/W = Once every week.

⁽³⁾ See Part I.C. for toxicity monitoring requirements

NL = No limit; monitor and report.

3/D 8H = Three times every day at eight hour intervals.

⁽⁴⁾ Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO₂+NO₃ Nitrogen and shall be calculated from the results of those tests.

S.U. = Standard units.

1/M = Once every month.

TIRE = Totalizing, indicating and recording equipment.

1/YR = Once every year.

⁽⁵⁾ See Part I.B.3. for nutrient reporting calculations.⁽⁶⁾ See Part I.E. for Schedule of Compliance. The facility shall monitor Dissolved Zinc and Total Hardness without limitation during the schedule of compliance for Zinc. The Total Recoverable Zinc limitation shall be effective four years from the effective date of the permit.

24H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of twenty-four (24) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of twenty-four (24) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements**2. Outfall 001 – 22 MGD Facility**

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. In addition to any Total Nitrogen or Total Phosphorus concentration limits (or monitoring requirements without associated limits) listed below, this facility has Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall included in the current Registration List under registration number VAN010017, enforceable under the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia.
- c. During the period beginning with the issuance of the CTO for the 22 MGD facility and lasting until the permit's expiration date, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

d.

Parameter	Discharge Limitations				Monitoring Requirements			
	Monthly Average ⁽¹⁾		Weekly Average ⁽¹⁾		Minimum	Maximum ⁽¹⁾	Frequency	Sample Type
Flow ⁽²⁾ (MGD)	NL		NA		NA	NL	Continuous	TIRE
pH	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
COD	10 mg/L	830 kg/day	15 mg/L	1250 kg/day	NA	NA	1/D	24H-C
Total Suspended Solids, TSS	1.0 mg/L	83 kg/day	1.5 mg/L	125 kg/day	NA	NA	1/D	24H-C
Total Kjeldahl Nitrogen, TKN	1.0 mg/L	180 lb/day	1.5 mg/L	280 lb/day	NA	N/A	1/D	24H-C
Dissolved Oxygen	NA		NA		6.0 mg/L	NA	1/D	Grab
Turbidity	0.5 NTU		NA		NA	NA	3/D 8H	Grab
<i>E. coli</i> (Geometric Mean)	<2 n/100 mL		NA		NA	NA	1/D	Grab
NO ₂ + NO ₃ as Nitrogen	NL (mg/L)		NA		NA	NA	3D/W	24H-C
Total Nitrogen ⁽⁴⁾	NL (mg/L)		NA		NA	NA	3D/W	Calculated
Total Nitrogen – Year to Date ⁽⁵⁾	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Nitrogen – Calendar Year ⁽⁵⁾	3.0 mg/L		NA		NA	NA	1/YR	Calculated
Total Phosphorus	0.1 mg/L	18 lb/day	0.15 mg/L	28 lb/day	NA	NA	1/D	24H-C
Chronic Toxicity – <i>C. dubia</i> (TU _c) ⁽³⁾	NA		NA		NA	NL	1/3M	24H-C
Chronic Toxicity – <i>P. promelas</i> (TU _c) ⁽³⁾	NA		NA		NA	NL	1/3M	24H-C
Total Recoverable Zinc	150 ug/L		150 ug/L		NA	NA	1/M	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/D = Once every day.

⁽²⁾ The design flow is 22 MGD.

NA = Not applicable.

3D/W = Three days a week.

⁽³⁾ See Part I.C. for toxicity monitoring requirements

NL = No limit; monitor and report.

3/D 8H = Three times every day at eight hour intervals.

⁽⁴⁾ Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO₂+NO₃ Nitrogen and shall be calculated from the results of those tests.

S.U. = Standard units.

1/M = Once every month.

TIRE = Totalizing, indicating and recording equipment.

1/3M = Once every three months.

1/YR = Once every year.

⁽⁵⁾ See Part I.B.3. for nutrient reporting calculations. The calendar year annual average for Total Nitrogen is effective January 1st of the year after issuance of the CTO for the expanded facility.

24H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of twenty-four (24) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of twenty-four (24) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements**3. Outfalls 002, 003, 004, 005, and 006 – Flush Water from the Reclaimed Water Distribution System**

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. These outfalls shall neither cause nor contribute to the scouring or degradation of the stormwater conveyances or receiving streams.
- c. During the period beginning with the permit's effective date and lasting until the expiration date, the permittee is authorized to discharge from Outfall Numbers 002, 003, 004, 005, and 006. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations				Monitoring Requirements	
	<u>Monthly Average</u> ⁽¹⁾	<u>Daily Maximum</u> ⁽¹⁾	<u>Minimum</u>	<u>Maximum</u> ⁽¹⁾	<u>Frequency*</u>	<u>Sample Type</u>
Flow ⁽²⁾ (MGD)	NL	NA	NA	NL	1/6M	Estimate
pH	NA	NA	6.0 S.U.	9.0 S.U.	1/6M	Grab
Total Suspended Solids, TSS ⁽³⁾	30 mg/L	45 mg/L	NA	NA	1/6M	Grab
Total Residual Chlorine	0.016 mg/L	0.016 mg/L	NA	NA	1/6M	Grab

⁽¹⁾ See Part I.B.

MGD = Million gallons per day.

1/6M = Once every six months.

⁽²⁾ The maximum flow is 0.0014 MGD.

NA = Not applicable.

⁽³⁾ TSS shall be reported as two significant figures.

NL = No limit; monitor and report.

S.U. = Standard units.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

*The semiannual monitoring periods shall be January through June, July through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

A. Effluent Limitations and Monitoring Requirements**4. Stormwater Outfalls**

- a. There shall be no discharge of floating solids or visible foam in other than trace amounts.
- b. During the period beginning with the permit's effective date and lasting until the expiration, the permittee is authorized to discharge from the Stormwater Outfalls.

The facility is authorized to discharge stormwater through each of these outfalls. No monitoring is required from these stormwater outfalls. Best Management Practices shall be utilized.

B. Quantification Levels and Compliance Reporting**1. Quantification Levels**

- a. The quantification levels (QL) shall be less than or equal to the following concentrations:

<u>Characteristic</u>	<u>Quantification Level</u>
TSS	1.0 mg/L
TRC	0.10 mg/L
COD	10 mg/L
Zinc	61 ug/L

- b. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

2. Compliance Reporting for parameters in Part I.A.

- a. Monthly Average – Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis, then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.
- b. Weekly Average – Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in Part I.B.1.a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis, then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.
- c. Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used in the analysis (QL must be less than or equal to the QL listed in Part I.B.1.a above). Otherwise the numerical value shall be reported.

- d. Significant Digits - The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

3. Nutrient Reporting Calculations for Part I. A

- a. For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formulae:

$$MC_{avg}\text{-YTD} = (\sum_{(\text{Jan-current month})} MC_{avg}) \div (\# \text{ of months})$$

where:

$MC_{avg}\text{-YTD}$ = calendar year-to-date average concentration (mg/L)

MC_{avg} = monthly average concentration (mg/L) as reported on DMR

- b. The total nitrogen and phosphorus average concentrations (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. These values shall be calculated in accordance with the following formulae:

$$AC_{avg} = (\sum_{(\text{Jan-Dec})} MC_{avg}) \div 12$$

where:

AC_{avg} = calendar year average concentration (mg/L)

MC_{avg} = monthly average concentration (mg/L) as reported on DMR

- c. For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used should be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.
- d. For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

C. Whole Effluent Toxicity Program Requirements

1. Biological Monitoring for the 11 MGD Facility

- a). In accordance with the schedule in Part I.C.2. below, the permittee shall conduct annual chronic toxicity tests during this permit term or until the issuance of the Certificate to Operate (CTO) for the 22 MGD facility, whichever occurs first. The permittee shall collect 24-hour flow-proportioned composite samples of final effluent at Outfall 001.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*
Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e. a "less than" NOEC value) are not acceptable and a retest shall be performed. The NOEC, as determined by hypothesis testing, shall be converted to TU_c (Chronic Toxic Units) for Discharge Monitoring Report (DMR) reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

b). The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c). The test dilutions shall be able to determine compliance with the following endpoints:

Chronic NOEC $\geq 67\%$; equivalent to a $TU_c \leq 1.49$

d). The test data will be evaluated statistically for reasonable potential to cause or contribute to an exceedance of the Water Quality Standards at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee or if toxicity has been noted. Should evaluation of the data indicate that a limit is warranted, a WET limit and compliance schedule will be required.

e). The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limitation shall control the toxicity of the effluent.

2. Reporting Schedule

The permittee shall monitor during the specified period; shall report the results on the DMR; and shall supply one copy of the toxicity test report specified in this Whole Effluent Toxicity Program in accordance with the following schedule:

Period	Sampling Period	DMR/Report Submission Dates
Annual 1	April 1, 2017 – June 30, 2017	January 10, 2018
Annual 2	January 1, 2018 – March 31, 2018	January 10, 2019
Annual 3	July 1, 2019 – September 30, 2019	January 10, 2020
Annual 4	October 1, 2020 – December 31, 2020	January 10, 2021

3. Biological Monitoring for the 22 MGD Facility

a). Commencing within six (6) months of the effective date of the CTO issuance for the 22 MGD facility, the permittee shall conduct quarterly acute and chronic toxicity tests using 24-hour flow-proportioned composite samples of final effluent from Outfall 001.

The acute tests to use are:

48 Hour Static Acute test using *Ceriodaphnia dubia*

48 Hour Static Acute test using *Pimephales promelas*

The acute tests shall be conducted using fine (5) geometric dilutions of effluent with a minimum of four (4) replicates, with five (5) organisms in each. The "No Observed Adverse Effect Concentration" (NOAEC), as determined by hypothesis testing shall be reported on the Discharge Monitoring Report

(DMR). The LC_{50} shall also be determined and noted on the submitted test report. Tests in which control survival is less than 90% are not acceptable.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*
Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable and a retest shall be performed. The NOEC, as determined by hypothesis testing, shall be converted to TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

- b). The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.
- c). The test dilutions shall be able to determine compliance with the following endpoints:
 - Acute NOAEC = 100%
 - Chronic NOEC $\geq 68\%$; equivalent to a $TU_c \leq 1.47$
- d). The test data will be evaluated statistically for reasonable potential at the conclusion of the test period. The data may be evaluated sooner if requested by the permittee or if toxicity has been noted. Should evaluation of the data indicate that a limit is warranted, a WET limit and compliance schedule will be required.
- e). The permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limitation shall control the toxicity of the effluent.
- f). After four (4) quarterly testing regimes are completed and the data are evaluated by DEQ, indicating no reasonable potential exists for toxicity; the permittee may request that the monitoring frequency for chronic WET testing be reduced to once a year and the acute toxicity testing requirement be removed.

D. Pretreatment Requirements

1. Within one year of the effective date of this permit, the permittee shall develop and submit to the DEQ Northern Regional Office (DEQ-NRO) a pretreatment program for approval. The program shall enable the permittee to control by permit the Significant Industrial Users (SIUs) discharging wastewater to the POTW treatment works.
2. The approvable pretreatment program submission shall at a minimum contain the following parts:
 - a) The Legal authority referencing both the Virginia VPDES Regulations and 40 CFR;
 - b) Program procedures;
 - c) Funding and resources;
 - d) Local limits evaluation to include proposed local limits if needed;
 - e) An Enforcement Response Plan; and
 - f) A list of Significant Industrial Users.

A Significant Industrial User (SIU) is defined as an Industrial User (IU) that:

- Has an average flow of 25,000 gallons or more per day of process wastewater to exclude sanitary, non-contact cooling water and boiler blowdown;
- Contributes a process wastestream which makes up 5% or more of the average dry weather hydraulic or organic capacity of the POTW;
- Is subject to the categorical pretreatment standards; or
- Has significant impact, either singularly or in combination with other Significant Dischargers, on the treatment works or the quality of its effluent.

3. Once the pretreatment program is approved, the requirement for submittal of an annual report to DEQ-NRO shall be enacted. The permittee shall submit to the DEQ-NRO an annual report no later than January 31 of each year that includes the information listed below.

a) An updated list of the SIUs to include:

- i. The facility contact name with a mailing address, e-mail address, and telephone number;
- ii. An explanation for any deletion of SIUs from the list;
- iii. The identification of Industrial Users (IUs) subject to Categorical Standards and the applicable standard;
- iv. Specification of applicable 40 CFR part(s);
- v. Indication of IUs subject to local standards are more stringent than Categorical Pretreatment Standards;
- vi. Indication of IUs are subject only to local requirements;
- vii. Identification of IUs subject to Categorical Pretreatment Standards that are qualify for reduced reporting requirements under 9VAC25-31-840 E.3 and.;
- viii. Identification of IUs that are non-significant Categorical Industrial Users

b) A summary of the compliance status of each SIU with pretreatment standards and permit requirements.

c) A summary of the number and types of SIU sampling and inspections performed by the POTW.

d) All information concerning any interference, upset, VPDES permit or Water Quality Standards violations directly attributable to SIUs and enforcement actions taken to alleviate said events.

e) A description of all enforcement actions taken against SIUs over the previous 12 months.

f) A summary of any changes to the submitted pretreatment program that have not been previously reported to the DEQ-NRO.

g) A summary of the permits issued to SIUs since the last annual report.

h) POTW and self-monitoring results for SIUs determined to be in significant non-compliance during the reporting period.

i) Results of the POTW's influent/effluent/sludge sampling, not previously submitted to DEQ.

j) Copies of newspaper publications of all SIUs in significant non-compliance during the reporting period. This is due no later than March 31 of each year.

k) Signature of an authorized representative.

4. The DEQ may require the POTW to institute changes to the legal authority regarding SIU permit(s) if one or more of the following are present:
 - a) The legal authority does not meet the requirements of the Clean Water Act, Water Control Law or State regulations;
 - b) Problems such as interferences, pass-through, violations of water quality standards or sludge contamination develop or continue; and
 - c) Federal, state or local requirements change.

E. Schedule of Compliance for Total Recoverable Zinc

1. The permittee shall achieve compliance with the final limits specified in Part I.A of this permit in accordance with the following schedule:

Action	Time Frame
a. Select engineering firm for design of facilities or submit proposed plan to achieve compliance with final limits.	Within 180 days after the effective date of the permit.
b. Report of progress on attainment of final limits.	The first annual report is twelve months after the effective date.
c. Achieve compliance with final limits.	Within three (3) years from the effective date of the permit.

2. No later than 14 calendar days following a date identified in the above schedule of compliance, the permittee shall submit to the DEQ-Northern Regional Office (NRO), either a report of progress or, in the case of specific actions being required by identified dates, a written notice of compliance or noncompliance. In the latter case, the notice shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next schedule requirement.
3. During the compliance period, the permittee must (1) continue to operate the facility in a manner that will minimize or avoid degradation of the effluent from current operating levels and (2) notify DEQ prior to making any substantial process control modifications that might degrade the quality of the effluent.

F. Other Requirements and Special Conditions

1. 95% Capacity Reopener
A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ-Northern Regional Office (DEQ-NRO) when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.
2. Indirect Dischargers
The permittee shall provide adequate notice to the Department of the following:
 - a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of Clean Water Act and the State Water Control Law if it were directly discharging those pollutants; and

- b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. Operation and Maintenance (O&M) Manual Requirement

The permittee shall maintain a current Operations and Maintenance (O&M) Manual for the treatment works that is in accordance with Virginia Pollutant Discharge Elimination System Regulations, 9VAC25-31 and (for sewage treatment plants) Sewage Collection and Treatment Regulations, 9VAC25-790.

The O&M Manual and subsequent revisions shall include the manual effective date and meet Part II.K.2 and Part II.K.4 Signatory Requirements of the permit. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M manual available to Department personnel for review during facility inspections. Within 30 days of a request by DEQ, the current O&M Manual shall be submitted to the DEQ-NRO for review and approval.

The O&M Manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of this permit. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Permitted outfall locations and techniques to be employed in the collection, preservation, and analysis of effluent, storm water and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters. List type and quantity of wastes, fluids, and pollutants (e.g. chemicals) stored at this facility;
- e. Discussion of treatment works design, treatment works operation, routine preventative maintenance of units within the treatment works, critical spare parts inventory and record keeping;
- f. Plan for the management and/or disposal of waste solids and residues;
- g. Hours of operation and staffing requirements for the plant to ensure effective operation of the treatment works and maintain permit compliance;
- h. List of facility, local and state emergency contacts; and
- i. Procedures for reporting and responding to any spills/overflows/ treatment works upsets.

4. CTC and CTO Requirement

In accordance with *Sewage Collection and Treatment* regulation (9VAC25-790), the permittee shall obtain a Certificate to Construct (CTC) and a Certificate to Operate (CTO) from the Department of Environmental Quality prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

5. Licensed Operator Requirement

The permittee shall employ or contract at least one Class I licensed wastewater works operator for this facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and Board for Waterworks and Wastewater Works Operators and Onsite Sewage System Professionals Regulations. The permittee shall notify the Department in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

6. Reliability Class

The permitted treatment works shall meet Reliability Class I.

7. Water Quality Criteria Reopener

Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

8. Instream Monitoring

The permittee shall continue to monitor the receiving stream in accordance with the approved monitoring plan. The permittee shall review the approved monitoring plan for the receiving stream. Any changes to the monitoring plan shall be written in consultation with Fairfax Water and submitted to DEQ Northern Regional Office for review and approval. If the results of this monitoring indicate actual or potential water quality standard violations due to this discharge, the permit may be modified, or alternately, revoked and reissued, in order to incorporate more stringent permit requirements.

9. Nutrient Offsets

Any annual Total Nitrogen and/or Total Phosphorus loadings above and beyond those permitted prior to July 1, 2005 shall be offset subject to a DEQ-approved trading contract prepared in accordance with 62.1-44.19:12 - :19 of the Law and 9VAC25-820-10 et seq., and which includes, but not limited to, the following:

- a. Discussion of the source of the acquired allocations,
- b. Discussion of other permitted facilities involved in the trade, and
- c. Discussion of any non-point source allocations acquired.

This proposal shall provide for the waste loads that are projected to be discharged on an annual basis for the term of this permit, and shall be approved prior to the commencement of discharge from the new or expanded facility. Once approved, the conditions of the proposal pertaining to verification of non-point allocations acquired, or self-offsetting practices implemented, become an enforceable part of this permit.

10. E3/E4

The annual average concentration limitations for Total Nitrogen and/or Total Phosphorus are suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:

- a. The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
- b. The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitations; and
- c. The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitations for Total Nitrogen and/or Total Phosphorus, as applicable, are not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitations as required by b. above.

11. Nutrient Reopener

This permit may be modified or, alternatively, revoked and reissued:

- a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
- b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade, or

- c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:
 - i. the State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or
 - ii. a future water quality regulation or statute require new or alternative nutrient control.

12. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

13. PCB Pollutant Minimization Plan

The permittee has completed low-detection level, congener specific monitoring of the effluent for PCBs.

a. Pollutant Minimization Plan (PMP)

Upon notification from DEQ-NRO that the PCB monitoring results for the effluent indicate a reasonable potential to exceed the water quality criterion, the permittee shall submit to DEQ-NRO for review and approval a Pollutant Minimization Plan (PMP) designed to investigate the location and potential reduction of sources of PCBs in the collection system. The PMP shall be submitted within 180 days of the date of the notification letter.

The PMP shall detail the practices and procedures which will be followed to investigate the location and potential reduction of sources of PCBs. This PMP shall include, but not necessarily be limited to, the following items, as appropriate:

- 1) Provide a facility contact for the contents of the PMP and any activities associated with the PMP;
- 2) Provide a proposed implementation schedule for minimization activities and prospective milestones;
- 3) Propose actions for known or probable sources;
- 4) Propose actions to find and control unknown sources;
- 5) Summarize any previous minimization activities;
- 6) Present methods for measuring, demonstrating, and reporting progress;
 - i) May include an evaluation of the total PCBs and/or PCB congener distribution in the initial source intake water to determine the net contributions of PCBs introduced to the treatment works.
 - ii) May include raw influent testing using either grab or composite samples as well as sampling upstream in the collection system. Screening methods may be utilized to target specific areas of interest.
 - iii) Alternative PCB test methods are acceptable provided analytical sensitivity is sufficient for detection and quantification.
 - iv) May perform further monitoring of the final effluent to determine effectiveness of the reduction efforts and to reestablish a new baseline for PCBs in the final effluent.
- 7) Estimate the PCB load reduction provided by treatment; and
- 8) Provide information on continuing assessment of progress, which may include establishment of criteria to evaluate whether the location and potential reduction of PCB sources has been addressed, and whether a more routine follow-up awareness, education, and inspection approach is appropriate.

b. Pollutant Minimization Plan (PMP) Annual Report

If the permittee is required to implement a PMP in accordance with this special condition, an Annual Report shall be submitted to DEQ-NRO for review and approval by February 10th for the previous year's PMP activities.

The Annual Report shall:

- 1) Summarize PMP Achievement for investigating the location and potential reduction of sources of PCBs in the collection system during the past calendar year;
- 2) Address any revisions needed for the PMP for the coming year;
- 3) Address material and process modifications, if applicable;
- 4) Summarize measures taken to address known, probable and potential sources; and
- 5) Discuss incremental and cumulative changes from the baseline loading.

14. Nitrate Concentrations in the Potomac River

The permittee is responsible for knowing the nitrate concentrations in the vicinity of the Fairfax Water's intake on the Potomac River. Should nitrate concentrations at the intake reach 5 mg/L, the permittee shall evaluate measures they can take to minimize impacts their discharge has on the nitrate concentrations and implement those measures deemed feasible and effective.

15. Unauthorized, Unusual, or Extraordinary Discharge Notification

The permittee shall notify Fairfax Water, the Maryland Department of the Environment, and the Interstate Commission of the Potomac River Basin within six (6) hours of an unauthorized, unusual, or extraordinary discharge.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements required by this permit shall be taken at the permit designated or approved location and be representative of the monitored activity.
 - a. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
 - b. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.
 - c. Samples taken shall be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.
2. Any pollutant specifically addressed by this permit that is sampled or measured at the permit designated or approved location more frequently than required by this permit shall meet the requirements in A 1 a through c above and the results of this monitoring shall be included in the calculations and reporting required by this permit.
3. Operational or process control samples or measurements shall not be taken at the designated permit sampling or measurement locations. Operational or process control samples or measurements do not need to follow procedures approved under Title 40 Code of Federal Regulations Part 136 or be analyzed in accordance with 1VAC30-45, Certification for Noncommercial Environmental Laboratories, or 1VAC30-46, Accreditation for Commercial Environmental Laboratories.

B. Records

1. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) and time(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or methods used; and
 - f. The results of such analyses.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years, the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

Department of Environmental Quality - Northern Regional Office (DEQ-NRO)
13901 Crown Court
Woodbridge, VA 22193

2. Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.
3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse effects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
 - a. Any unanticipated bypass; and
 - b. Any upset which causes a discharge to surface waters.
2. A written report shall be submitted within 5 days and shall contain:
 - a. A description of the noncompliance and its cause;
 - b. The period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and
 - c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1. or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Regional Office at (703) 583-3800 (voice) or online at <http://www.deq.virginia.gov/Programs/PollutionResponsePreparedness/MakingaReport.aspx> . For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
 - a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:
 - 1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
 - 2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations nor to notification requirements specified elsewhere in this permit; or
 - c. The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
2. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements

1. Applications. All permit applications shall be signed as follows:
 - a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - 1) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
 - 2) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or
 - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes:
 - 1) The chief executive officer of the agency, or
 - 2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
2. Reports, etc. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:
- a. The authorization is made in writing by a person described in Part II.K.1.;
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
 - c. The written authorization is submitted to the Department.
3. Changes to authorization. If an authorization under Part II.K.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part II.K.2. shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.
4. Certification. Any person signing a document under Parts II, K.1. or K.2. shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

L. Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Clean Water Act within the time provided in the regulations that establish these

standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U.), and "upset" (Part II.V.) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of Solids or Sludges

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

T. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

U. Bypass

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Parts II, U.2. and U.3.
2. Notice
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.
3. Prohibition of bypass.
 - a. Bypass is prohibited, and the Board may take enforcement action against a permittee for bypass, unless:
 - 1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and
 - 3) The permittee submitted notices as required under Part II.U.2.
 - b. The Board may approve an anticipated bypass, after considering its adverse effects, if the Board determines that it will meet the three conditions listed above in Part II.U.3.a.

V. Upset

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2. are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.
2. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The permittee submitted notice of the upset as required in Part II.I.; and
 - d. The permittee complied with any remedial measures required under Part II.S.
3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act and the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions

Permits may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

Y. Transfer of permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2., a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.
2. As an alternative to transfers under Part II.Y.1., this permit may be automatically transferred to a new permittee if:
 - a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
 - b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

BIOSOLIDS

A. Biosolids Limitations and Monitoring Requirements

During the period beginning with the permit's effective date and lasting until the permit expiration date, the permittee is authorized to manage Class B biosolids in accordance with 9VAC25-31-420 through 720 and 9VAC25-32-303 through 358, the limitations, conditions and requirements set forth in this permit and the approved Biosolids Management Plan.

All biosolids samples shall be collected and analyzed in accordance with Title 40 of the Code of Federal Regulations, Part 503 and 136, and the approved Biosolids Management Plan. Analyses shall be conducted by a VELAP accredited environmental laboratory. The permittee shall ensure that all biosolids generated under authority of this permit and provided to other persons, for the purpose of land application, blending or further treatment, are monitored in accordance with the monitoring requirements as specified below in Part III.A.1.

1. Class B Biosolids

The permittee shall ensure that all Class B Biosolids provided to a person for the purpose of land application or blending are monitored in accordance with the requirements as specified below.

a. Biosolids Annual Production Monitoring (SP1)

The permittee shall report the annual total amount of sludge produced (in dry metric tons) and annual amount of Class B biosolids (in dry metric tons) distributed for land application. Data shall be reported on the Discharge Monitoring Report (DMR) for discharge number SP1.

b. Biosolids Chemical Limitations and Monitoring Requirements (S01)

Pollutants in Class B biosolids that are generated and provided to a land applier under the authority of this permit shall be monitored and limited as specified below. Biosolids shall not be provided for land application if the concentration of any pollutant in the biosolids exceeds the ceiling limitation of that pollutant.

<u>PARAMETERS</u>	<u>PC / CPLR LIMITATIONS</u>	<u>CEILING LIMITATIONS</u>	<u>MONITORING REQUIREMENTS</u>	
	<u>Monthly Average (mg/kg) ⁽¹⁾⁽²⁾</u>	<u>Concentration Maximum (mg/kg) ⁽¹⁾⁽²⁾</u>	<u>Frequency</u>	<u>Sample Type</u>
Percent Solids (%)	NL	NA	1/2M	Composite
Arsenic, Sludge	41	75	1/2M	Composite
Cadmium, Sludge	39	85	1/2M	Composite
Copper, Sludge	1,500	4,300	1/2M	Composite
Lead, Sludge	300	840	1/2M	Composite
Mercury, Sludge	17	57	1/2M	Composite
Molybdenum, Sludge	NL	75	1/2M	Composite
Nickel, Sludge	420	420	1/2M	Composite
Selenium, Sludge	100	100	1/2M	Composite
Zinc, Sludge	2,800	7,500	1/2M	Composite

NA = Not applicable

1/2M = Once every two months

NL = No limit, monitor and report

mg/kg = Milligrams per kilogram

- (1) All parameters are subject to pollutant concentrations (PC), cumulative pollutant loading rates (CPLR), and ceiling limits. PC biosolids contain the constituents identified above at concentrations below the monthly average specified herein. CPLR biosolids contain the constituents identified above at concentrations above the monthly average and each sample must be below the maximum concentration specified.

- (2) All limits and criteria are expressed on a dry weight basis

c. Pathogen Reduction and Vector Attraction Reduction (VAR) Requirements

Class B - Biosolids generated and provided to a land applier under this permit shall be treated to meet no less than Class B Pathogen Reduction Alternative and one VAR Option 1 - 8 prior to delivery to a land application site. The biosolids shall be monitored and limited in accordance with the treatment options selected as identified in the table below.

TREATMENT OPTION			
PATHOGEN REDUCTION ALTERNATIVE	PROCESS TO SIGNIFICANTLY REDUCE PATHOGENS (PSRP) OPTION	CLASS B PATHOGEN REDUCTION & VAR TREATMENT & STANDARDS	MONITORING REQUIREMENTS
2	3	PSRP: Anaerobic digestion for a mean cell residence time between 15 days at 35°C - 55°C up to 60 days at 20°C (9VAC25-31-710.D.3).	(2)
VAR OPTION	VECTOR ATTRACTION REDUCTION TREATMENT STANDARD		MONITORING REQUIREMENTS
1	38% Reduction of volatile solids by digestion (9VAC25-31-720.B.1.)		1/2M ⁽¹⁾⁽²⁾⁽³⁾

NA = Not applicable

- (1) Between sampling events, operating records must demonstrate that the Wastewater Treatment Plant (WWTP) is operating at a performance level known to meet pathogen reduction and VAR standards.
- (2) Process monitoring must be sufficient to demonstrate compliance with PSRP and VAR treatment requirements.
- (3) If the selected VAR option 1- 8 is not met, the permittee shall provide notification to the land applier at the time the biosolids are delivered that the biosolids did not meet VAR at the WWTP and that the biosolids must be injected below the surface of the land (9VAC25-31-720.B.9) or incorporated into the soil within 6 hours after application (9VAC25-31-720.B.10). The Permittee shall obtain verification from the land applier that injection or incorporation occurred.

B. Biosolids Management and Reporting Requirements

1. Only biosolids from a source that has been approved by the DEQ, as identified on the DEQ's *Sources of Biosolids, Industrial Sludges, WTP Residuals* list, and treated to meet metals limits in Parts III.A.1.b, pathogen reduction and VAR standards in Parts III.A.1.c, shall be given to any person for the purpose of land application.

2. Biosolids Monitoring Frequency and Reporting Requirements

- a. Monitoring Frequency

The monitoring frequency is Once every two (2) months. The monitoring frequency may be increased during this permit term if DEQ deems it necessary.

- b. Annual Report

The permittee shall submit an Annual Report not later than February 19th of each year to the DEQ-Northern Regional Office. Each report is for the previous calendar year's activity. If no biosolids were generated and provided to a land applier under this permit during the reporting year, a report shall be submitted stating that no biosolids were generated or delivered during the year. The report shall include at minimum:

- 1) Part III.A.1.a Sewage Sludge Annual Production Monitoring;
 - 2) Biosolids Monitoring Data:
 - a) Part III.A.1.b Biosolids – Metals Limitations;
 - b) Part III.A.1.c Biosolids - Pathogen Reduction and Vector Attraction Reduction (VAR) Requirements;
 - c) Supporting documentation, including laboratory chain of custody forms and certificates of analyses, shall be submitted with the report;
 - 3) A summary of biosolids disposal contracts, if any, currently held with other generators, as well as any other biosolids or sludges currently being handled through subcontracts or other agreements. Include biosolids or sludges given to other generators, contractors or land filled, and biosolids or sludges accepted from other generators for treatment or land application;
 - 4) Identify other methods used to dispose of or use biosolids or sludge produced during the previous calendar year. Report the annual total amount of biosolids or sludge (in dry metric tons) disposed of or used by each method identified; and
 - 5) The annual report shall be certified and signed in accordance with Part II.K.

3. Record Keeping

The permittee is required to retain the following information for at least five years:

- a. The concentrations of each pollutant in Parts III.A.1.b;
 - b. A description of how the pathogen reduction requirements in Parts III.A.1.c are met;
 - c. A description of how the vector attraction reduction requirements in Part III.A.1.c are met;
 - d. A description of how the management practices specified in the approved Biosolids Management Plan and this permit are met;
 - e. The NANI's required in Part III.B.4; and
 - f. The following certification statement(s) as applicable:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in 9VAC25-31-710D.3 and the vector attraction reduction requirements in (insert one of the vector attraction reduction requirements in 9VAC25-31-720B.1 was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

4. Notice and Necessary Information (NANI)

A NANI shall be provided to any person to whom biosolids are provided for the purpose of further treatment, blending or land application. The NANI shall be provided at the time the biosolids are provided if available, but no later than 45 days after the last day of the month in which biosolids were provided. The NANI shall represent the most recent monitoring period.

The NANI shall include at minimum:

- a. A statement that Class B pathogen requirements in 9VAC25-31-710.A - B were met and the alternative used;
- b. A statement that one of the VAR requirements in 9VAC25-31-720.B.1 through B.8 was met and the alternative used; or
- c. A statement that one of the VAR requirements in 9VAC25-31-720.B.1 through B.8 was not met and incorporation or injection was required;
- d. The notice(s) provided to the land applier when biosolids provided did not meet VAR and required incorporation or injection;
- e. The concentration of total nitrogen (as N on a dry weight basis) of the biosolids; and
- f. The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the Class B pathogen requirements in 9VAC25-31-710.D.3 and the VAR requirement in 9VAC25-31-720.B.1, if one of those requirements is met) was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification, including the possibility of fine and imprisonment".

5. Biosolids Management Plan (BSMP)

- a. The permittee shall conduct all biosolids/sewage sludge use or disposal activities in accordance with the Biosolids Management Plan approved with the reissuance of this permit. The permittee shall maintain the BSMP which consists of the following components:
 - (1) The materials developed and submitted at the time of permit application or permit modification in accordance with 9VAC25-31-100.Q;
 - (2) The Operations and Maintenance (O&M) Manual (Sections regarding solids handling and biosolids production and management, etc); and
 - (3) The Odor Control Plan.
- b. Odor Control Plan (OCP) Requirement – If an OCP is not on file at DEQ, an OCP shall be submitted to DEQ within 90 days of the effective date of this permit. The OCP shall include at a minimum:
 - (1) Methods used to minimize odor in producing biosolids;
 - (2) Methods used to identify malodorous biosolids before delivery to the land applier (at the generating facility);
 - (3) Methods used to identify and abate malodorous biosolids if delivered to the field, prior to land application; and
 - (4) Methods used to abate malodor from biosolids if land applied.
- c. The BSMP and all of its components are an enforceable part of the permit.
- d. Any proposed changes in the biosolids/sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ-Northern Regional Office (DEQ-NRO) approval 90 days prior to the effective date of the changes. Upon approval, the revised Biosolids Management Plan becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in biosolids/sewage sludge use or disposal practices.

6. Biosolids/Sewage Sludge Reopener

The Board may promptly modify or revoke and reissue this permit if any applicable standard for

biosolids/sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for biosolids/sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

7. Biosolids Use and Disposal

The permittee shall conduct all biosolids use or disposal activities in accordance with the Biosolids Management Plan approved with the issuance of this permit. Any proposed changes in the biosolids use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ-Northern Regional Office (DEQ-NRO) approval 90 days prior to the effective date of the changes. Upon approval, the revised Biosolids Management Plan becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in biosolids use or disposal practices.

RECLAMATION AND REUSE

A. Standards and Monitoring Requirements

1. Level 1 for uses identified in the approved Reclaimed Water Management Plan

- a. During the period beginning with the permit effective date and ending with the permit expiration date, the permittee is required to monitor pollutants in the reclaimed water as described below for reuses specified in the Reclaimed Water Management Plan:

Parameters	Standard ⁽¹⁾	Units	Frequency	Sample Type
<i>E. coli</i> ⁽²⁾	Geometric mean ⁽³⁾ : ≤ 11	Colonies/100 ml	5D/W ⁽⁴⁾	Grab
	CAT: 35	Colonies/100 ml	NA	Grab
Total Residual Chlorine (TRC) ⁽⁵⁾	NL	mg/L	Continuous	Recorded
	CAT: < 1.0	mg/L	Continuous	Recorded
pH	6.0 – 9.0	Standard Units	1/Day	Grab
BOD ₅	≤ 10	mg/L	1/Month	Grab
COD	Monthly average: ≤ 50	mg/L	1/Day	Grab
Turbidity ⁽⁶⁾	Daily average ⁽⁷⁾ : ≤ 2.0	NTU	Continuous	Recorded
	CAT: > 5.0	NTU	Continuous	Recorded
Reclamation System Flow ⁽⁸⁾	Monthly average: NL	MGD	Continuous	TIRE
	Monthly maximum: NL	MGD	Continuous	TIRE
Influent Flow ⁽⁹⁾	Monthly average: NL	MGD	Continuous	TIRE ⁽¹⁰⁾
	Monthly maximum: NL	MGD	Continuous	TIRE ⁽¹⁰⁾
Total Nitrogen ⁽¹¹⁾	NL (Calendar Year Avg)	mg/L	1/Year	Calculated
Total Phosphorus ⁽¹¹⁾	NL (Calendar Year Avg)	mg/L	1/Year	Calculated

NA = Not Applicable

MGD = Million gallons per day

TIRE = Totalizing, indicating, and recording equipment

CAT = Corrective action threshold

NL = No Limit

NTU = nephelometric turbidity unit

(1) With the exception of turbidity, standards must be met at the point of compliance (POC) designated as internal outfall 650. The POC shall be just upstream of disinfection for turbidity, at the end of the contact tank or contact period for total residual chlorine, and as specified in the approved operations and maintenance manual of the reclamation system for all other standards.

(2) After disinfection.

(3) For the purpose of calculating the geometric mean, bacterial analytical results below the detection level of the analytical method used shall be reported as values equal to the detection level.

(4) For reclamation systems treating municipal wastewater, bacterial samples shall be collected between 10:00 a.m. and 4:00 p.m. to coincide with peak flows to the reclamation system

(5) The TRC standard applies only if chlorine is used for disinfection. TRC is measured after a minimum contact time of 30 minutes at average flow or 20 minutes at peak flow. Should the on-line disinfectant monitoring equipment go out of service for either planned or unplanned repair, the permittee shall be allowed to manually collect samples for disinfectant analysis at four-hour intervals up to a maximum of five days. Following the five-day period of repair, continuous, on-line disinfectant monitoring shall resume.

(6) Turbidity analysis shall be performed by a continuous, on-line turbidity meter equipped with an automated data logging or recording device and an alarm to notify the operator when the CAT for turbidity in the standard for Level 1 has been reached. Compliance with the average turbidity standard shall be determined daily, based on the arithmetic mean of hourly or more frequent discrete measurements recorded during a 24-hour period. Should the on-line turbidity meter go out of service for either planned or unplanned repair, the permittee shall be allowed to manually collect samples for turbidity analysis at four-hour intervals up to a maximum of five days. Following the five-day period of repair, continuous, on-line monitoring with a turbidity meter shall resume. See Part IV.B.8 for additional information regarding turbidity monitoring.

(7) Daily average is the arithmetic mean of hourly or more frequent discrete turbidity measurements recorded during a 24-hour period.

(8) The designated design capacity for the reclamation system is 11 MGD. Any flows beyond 11 MGD shall require the permittee to conduct the cumulative impact analysis in accordance with 9VAC25-740-50.B.7.

(9) The design capacity of the wastewater treatment works that will divert source water or effluent to the reclamation system is noted in Part I.A.

(10) Influent flow shall be monitored at the head of the wastewater treatment works that will divert source water or effluent to the reclamation system/calculated as the sum of all authorized discharges to surface waters, land treatment and to reclaimed water distributions systems for reuse or directly to a reuse.

(11) Calendar Year Annual Average for Total Nitrogen and Total Phosphorus shall be calculated as described in Part I.B.3 of this permit.

B. Special Conditions for Water Reclamation and Reuse**1. Prohibitions for Reuse and Reclamation.**

The following are prohibited:

- a. Direct potable reuse;
- b. The reuse of reclaimed water for any purpose inside a residential or domestic dwelling or a building containing a residential or domestic unit;
- c. The reuse of reclaimed water to fill residential swimming pools, hot tubs or wading pools;
- d. The reuse of reclaimed water for food preparation or incorporation as an ingredient into food or beverage for human consumption;
- e. Bypass of untreated or partially treated wastewater from the reclamation system or any intermediate unit process to the point of reuse unless the bypass complies with standards and requirements specified in this permit and is for essential maintenance to assure efficient operation; and
- f. The return of reclaimed water to the reclaimed water distribution system after the reclaimed water has been delivered to an end user.
- g. Reduction of the discharge from a VPDES permitted treatment works due to diversion of source water flow for reclamation and reuse such that the physical, chemical or biological properties of the receiving state waters are affected in a manner that would cause a significant adverse impact to other beneficial uses.

2. Nuisance Conditions.

There shall be no nuisance conditions (e.g., ponded water that attracts mosquitoes or other vectors; strong odors that the Department determines are the subject of frequent and wide spread complaints from the surrounding community; any condition determined by a court of law to be a nuisance condition) resulting from the distribution, use or storage of reclaimed water.

3. Reclamation and Reuse Reopener.

The Board may modify or revoke and reissue this permit if any applicable standards or requirements for water reclamation and reuse promulgated under the Water Reclamation and Reuse Regulation (9VAC25-740) are more stringent than or are in addition to any standards or requirements for water reclamation and reuse contained in this permit.

4. Submittal of Monitoring Reports.

Discharge of reclaimed water from the reclamation system to a reclaimed water distribution system, a non-system storage facility or directly to a reuse of the reclaimed water at any time for any duration within a monthly reporting period, shall require monitoring in accordance with Part III.A and submittal of a monthly monitoring report for the discharge. Results for shall be included in the monthly monitoring report submitted to the DEQ –Northern Regional Office (DEQ-NRO) by the 10th of each month for the preceding month's performance.

5. Corrective Action Threshold.

Should reclaimed water reach the corrective action threshold (CAT) for turbidity or TRC specified in Part III.A of this permit, the operator of the reclamation system shall immediately initiate a review of treatment operations and data to identify the cause of the CAT monitoring results to bring the reclaimed water back into compliance with the standards. Resampling or diversion shall occur within one hour of first reaching the CAT. Procedures for resampling, operational review and diversion shall be as described in the approved operations and maintenance manual for the reclamation system. If subsequent monitoring results of the resamples collected within one hour of the first CAT monitoring results for turbidity or TRC continue to reach the CAT, the reclaimed water shall be considered substandard or reject water and shall be diverted to either storage for subsequent additional treatment or retreatment or discharged to a VPDES permitted effluent

disposal system provided the reject water meets the effluent limits of the permit. If the reclamation system is unattended, the diversion of reject water shall be initiated and performed with automatic equipment. There shall be no automatic restarts of distribution to reuse until the treatment problem is corrected. Failure to divert the substandard or reject water after one hour of CAT monitoring results shall be considered a violation of this permit. Upon resuming discharge of reclaimed water to the reclaimed water distribution system for which the CAT was reached, resampling for turbidity or TRC shall occur within one hour to verify proper treatment.

6. Corrective Action Threshold for Bacteria.

Should the reclaimed water reach the CAT for *E. coli* specified in Part IV.A of the VPDES permit for Level 1 reclaimed water, the operator of the reclamation system shall immediately initiate a review of treatment operations and data to identify the cause of the CAT monitoring results to bring the reclaimed water back into compliance with the standards. Procedures for operational review shall be as described in the approved operations and maintenance manual for the reclamation system. Two consecutive bacterial monitoring results that reach the CAT of the standards shall be considered a violation of this permit.

7. Failure to Resample.

Failure to resample after determination that monitoring results are not in compliance with the CAT standards for reclaimed water in Part IV.A, or to divert or discharge substandard or reject water in accordance with Part IV.B.5 shall be deemed a violation of this permit.

8. Online Turbidity Meter.

Should the on-line turbidity meter for the reclamation system/satellite reclamation system go out of service for either planned or unplanned repair, samples shall be manually collected for turbidity analysis at four-hour intervals up to a maximum of five days. Following the five-day period of repair, continuous, on-line monitoring with a turbidity meter shall resume.

9. Operations & Maintenance Manual.

Within 90 days of placing the new reclamation system into operation, the permittee shall submit a new or revised operations and maintenance manual for the system to the DEQ-NRO. This document is an enforceable part of the permit that shall reflect the practices and procedures followed by the permittee to ensure compliance with the permit. The permittee shall maintain the manual and any changes in the practices and procedures followed by the permittee shall be documented and submitted to the DEQ-NRO for approval within 90 days of the effective date of the changes. Upon approval, these revisions to the O&M Manual shall be incorporated into the existing documents and be an enforceable part of the permit.

The operations and maintenance manual for the new reclamation system shall be maintained on site at the facility and shall, at a minimum, contain the following:

- a. A description of unit treatment processes within the new reclamation system and step-by-step instructions for the operation of these processes;
- b. For all appurtenances associated with the reclamation system (i.e., storage facilities, distribution system, etc.), a description of each, step-by-step instructions for their operation, and a description of their maintenance;
- c. Routine maintenance and schedules of maintenance for each unit treatment process in the system;
- d. The criteria and equipment used to make continuous determinations of the acceptability of the reclaimed water being produced and alarm set points for parameters measured by continuous on-line monitoring equipment;
- e. Descriptions of the following that shall comply with the standard and conditions of this permit:
 - (1) Reclaimed water sampling and monitoring procedures and equipment. This shall include, but is not limited to, a description of sample handling, preservation and chemical analyses; and calibration and schedules of calibration for monitoring equipment;
 - (2) The sampling location[s] for the point[s] of compliance; and
 - (3) Control system, alarm functions, record keeping and reports;

- f. Hours of reclamation system operation, hours that the system will be staffed, procedures to be followed by the staff during a period when an operator is not present at the system, and training of the staff regarding operation and maintenance of the system;
- g. The physical steps and procedures to be followed by the operator when substandard water is being produced, including resampling and operational review required in accordance with Part IV.B.5 and 6 of this permit;
- h. The physical steps and procedures to be followed by the operator when the treatment works returns to normal operation and acceptable quality reclaimed water is again being produced;
- i. Responsible officials and their duties, roles and contact information;
- j. Information necessary for the proper management of sludge or residuals from reclamation treatment;
- k. A contingency plan to eliminate or minimize the potential for untreated or inadequately treated water to be delivered to reuse areas. The plan shall, among other things:
 - (1) Identifying persons responsible for implementing the contingency plan and their contact information;
 - (2) Reference and be coordinated with the education and notification program contained in the approved RWM Plan for any release of untreated or inadequately treated water to the reclaimed water distribution system;
- l. Location of back up or replacement parts critical to the operation of unit treatment processes within the reclamation system;
- m. A list of chemicals and materials in storage areas and the location of storage areas; and
- n. A plan for inactivation or closure of the reclamation system specifying what steps will be taken to protect the environment and public health. At a minimum, the closure plans shall include a list of all waste products remaining at the facility, information characterizing each waste (i.e., volume, percent solids, nutrient content, etc.), and a description of procedures to remove or properly dispose of the these wastes.

The operations and maintenance manual for the reclaimed water distribution system shall, at a minimum, contain the following:

- a. A description of all components within the distribution system and step-by-step instructions for the operation of specific mechanical components;
- b. Routine and unplanned inspection of the distribution system, including required inspections for the cross-connection and backflow prevention program contained in the approved RWM Plan;
- c. Routine maintenance and schedules of maintenance for all components of the distribution system. Maintenance shall include, but is not be limited to, initial and routine flushing of the distribution system, measures to prevent or minimize corrosion, fouling and clogging of distribution lines; and detection and repair of broken distribution lines, flow meters or pumping equipment;
- d. Procedures to handle and dispose of any wastes or wastewater generated by maintenance of the distribution system in a manner protective of the environment; and
- e. A plan for inactivation or closure of the reclaimed water distribution system specifying what steps will be taken to protect the environment and public health.

10. 95% Capacity Reopener.

When the monthly average flow into the reclamation system reaches 95% of the designated design capacity authorized by this permit for each month of any 3 consecutive month period, a written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ-NRO. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95% of the designated design capacity. The plan of action shall include the necessary steps and a prompt schedule of implementation for controlling any current problem, or any problem which could be reasonably anticipated, resulting from high flows entering the reclamation system. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

11. BNR Reopener.

When the annual average concentration of total nitrogen (N) or total phosphorus (P) in the reclaimed water exceeds 8.0 mg/l or 1.0 mg/l, respectively, for the preceding calendar year (January through December), a written notice of such nutrient reduction failure and a plan of action for ensuring the reclamation system

achieves BNR treatment of the reclaimed water shall be submitted by the permittee to the DEQ-NRO for review and approval. The written notice shall be submitted by February 1 and the plan of action shall be submitted no later than April 1. The plan of action shall include the necessary steps and a prompt schedule of implementation for the reclamation system to achieve BNR treatment. Upon its approval, said plan and schedule shall become a part of and enforceable under the provisions of this permit. Failure to submit the required notice or failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

12. Minimizing Losses.

The reclaimed water distribution system shall be maintained to minimize losses and to ensure safe and reliable conveyance of reclaimed water, such that the reclaimed water in the distribution system will not be degraded to a quality that violates the standards in this permit for the intended reuses of the reclaimed water specified in the approved Reclaimed Water Management (RWM) Plan.

13. Storage of Reject Water.

All storage facilities of reject water and reclaimed water (system and non-system), including landscape impoundments used for non-system storage of reclaimed water, shall be designed and operated to prevent a discharge to surface waters of the state except in the event of a storm greater than the 25-year 24-hour storm.

14. Freeboard.

The permittee shall maintain a minimum freeboard of two feet at all times in the reject water storage facility. Non-compliance with the minimum two-foot freeboard requirement at any time shall be reported orally and in writing by the permittee to the DEQ-NRO in accordance with Part II.I of the VPDES permit.

15. Storage Inventory.

A current inventory of reject water storage, system storage and non-system storage facilities located within the service area of the approved RWM plan shall be maintained. For the addition of new storage facilities to the inventory after permit reissuance, the permittee shall submit to the DEQ-NRO an amended inventory at least 30 days before reclaimed water will be introduced into the new storage facilities. An inventory of reject water storage, system storage and non-system storage facilities shall include the following:

- a. Name or identifier for each storage facility,
- b. Location of each storage facility (including latitude and longitude),
- c. Function of each storage facility (i.e., reject water storage, system storage or non-system storage),
- d. Type of each storage facility (i.e., covered tank, uncovered tank, lined pond, unlined pond, etc.), and
- e. Location (latitude and longitude) and distance of the nearest potable water supply well and spring, and public water supply intake, to each storage facility within 450 feet of that facility.

16. Preliminary Engineering Report.

A preliminary engineering report shall be submitted for new reclamation system, satellite reclamation system or reclaimed water distribution system; or for the modification or expansion of the same facilities where they already exist. At the request of the permittee, the DEQ-NRO may waive the need for a preliminary engineering report or portions of a preliminary engineering report for modification or expansion of an existing reclamation system, satellite reclamation system or reclaimed water distributions system determined by the scope of the proposed project.

17. CTC/CTO.

The permittee shall not cause or allow the construction, expansion or modification, and the operation of the reclamation system except in compliance with a certificate to construct (CTC) and a certificate to operate (CTO), respectively, issued by the DEQ.

18. Public Access.

There shall be no uncontrolled public access to the reclamation system.

19. Advisory Signs.

For all reuses of reclaimed water treated to Level 1, advisory signs or placards shall be posted within and at the boundaries of reuse areas, and shall display a non-potable water warning statement and symbol, and other necessary information as described in 9VAC25-740.

20. Placement of Advisory Signs.

Advisory signs shall be posted adjacent to impoundments or ponds, including landscape impoundments, used for non-system storage of reclaimed water as per 9VAC25-740-160.

21. Advisory Signs for Industrial Sites.

For industrial reuses, advisory signs shall be posted around those areas of the industrial site where reclaimed water is used and at the main entrances to the industrial site to notify employees and the visiting public of the reclaimed water reuse. Access control beyond what is normally provided by the industry is not required.

22. Supplemental Irrigation and Salt Accumulation.

All irrigation reuses of reclaimed water shall be supplemental irrigation, which in combination with rainfall, meets but does not exceed the water necessary to maximize production or optimize growth of the irrigated vegetation. For all bulk irrigation reuse sites identified in the reclaimed water management plan for the permitted reclamation system, the rate of supplemental irrigation shall be calculated for every day that irrigation with reclaimed water occurs.

Where it is demonstrated by the permittee or an end user other than the permittee that salts will accumulate or have accumulated in the soil of an irrigation reuse site to concentrations that adversely affect the productivity or growth of the irrigated vegetation, and the application of reclaimed water will not contribute or has not contributed significantly to the salt problem, an additional volume of reclaimed water less than or equal to 10% of the water lost to evapotranspiration by the irrigated vegetation may be used for leaching and shall be included in the calculation of supplemental irrigation. Where it is demonstrated by the permittee or an end user other than the permittee that salts will accumulate or have accumulated in the soil of an irrigation reuse site to concentrations that adversely affect the productivity or growth of the irrigated vegetation, and the application of reclaimed water will contribute or has contributed significantly to the salt problem, no additional reclaimed water shall be applied for the purpose of leaching salts from the soil at the site. Any additional volume of water required for leaching that is not or can not be reclaimed water (e.g., rainwater, potable water, etc.) shall be included in the calculation of supplemental irrigation.

23. Irrigation Requirements.

For all irrigation reuses of reclaimed water, the following shall be required:

- a. There shall be no application of reclaimed water to the ground when it is saturated, frozen or covered with ice or snow, and during periods of rainfall.
- b. The chosen method of irrigation shall minimize human contact with the reclaimed water.
- c. Reclaimed water shall be prevented from coming into contact with drinking fountains, water coolers, or eating surfaces.
- d. Methodology for determining supplemental rates shall be included in the Service Agreement.

24. Overspray from Irrigation.

Overspray of surface waters, including wetlands, from irrigation or other reuses of reclaimed water is prohibited.

25. Irrigation Setbacks.

For sites irrigated with reclaimed water meeting a minimum of Level 1 standards contained in Part IV.A of this permit, the following setback distances are required:

- a. Potable water supply wells and springs, and public water supply intakes 100 feet
- b. Non-potable water supply wells 10 feet
- c. Limestone rock outcrops and sinkholes 50 feet

No setback distances are required from occupied dwellings and outdoor eating, drinking and bathing facilities. However, aerosol formation shall be minimized within 100 feet of occupied dwellings and outdoor eating, drinking and bathing facilities through the use of low trajectory nozzles for spray irrigation, above-ground drip irrigation, or other means.

26. Irrigation Setback Waivers.

For sites irrigated with reclaimed water meeting the standards contained in Part IV.A of this permit, the setback distances specified in Part IV.B.25 may be reduced as follows with the prior approval of the DEQ-NRO:

- a. Up to but not exceeding 50 % from occupied dwellings and areas accessible to the public unless alternative measures are implemented to provide an equivalent level of public health protection. Such measures shall include, but are not limited to, disinfection of the reclaimed water equivalent to meet Level 1 standards contained in Part IV.A of this authorization, application of the reclaimed water by methods that minimize aerosol formation (e.g., low trajectory nozzles for spray irrigation, above-ground drip irrigation), installation of permanent physical barriers to prevent migration of aerosols from the reclaimed water irrigation site, or any combination thereof. Written consent of affected landowners is required to reduce setback distances from occupied dwellings.
- b. Up to 100 % from property lines with written consent from adjacent landowners.
- c. To but not less than 100 feet from potable water supply wells and springs, or public water supply intakes where it is demonstrated that disinfection of the reclaimed water is equivalent to Level 1 standards contained in Part I.A of this permit, and there are no other constituents of the reclaimed water present in quantities sufficient to be harmful to human health.
- d. To but not less than 25 feet from surface waters, including wetlands, where reclaimed water shall be applied by methods that minimize aerosol formation (e.g., low trajectory nozzles for spray irrigation, above-ground drip irrigation); or permanent physical barriers are installed to prevent the migration of aerosols from the reclaimed water irrigation site to surface waters.

27. Multiple Setbacks.

For irrigation reuses where more than one setback distance may apply, the greater setback distance shall govern.

28. Measurement of Setbacks.

Unless specifically stated otherwise, all setback distances shall be measured horizontally.

29. Cooling Tower Spray.

Windblown spray generated by once-through cooling or recirculating cooling towers that reuse reclaimed water meeting the standards specified in Part IV.A of this authorization, shall not reach areas accessible to workers or the public unless Level 1 disinfection specified in Part IV.A of this authorization is provided.

30. Worker Contact.

Worker contact with reclaimed water meeting the standards specified in Part IV.A of this authorization shall be minimized. Level 1 disinfection specified in Part IV.A of this authorization, shall be provided when worker contact with the reclaimed water is likely.

31. Reclaimed Water Failure.

Where treatment of the reclaimed water fails more than once during a seven-day period to comply with Level 1 disinfection reclaimed water standards contained in Part IV.A of this permit for the protection of human health, and the non-compliant reclaimed water has been discharged to the reclaimed water distribution

system, the permittee shall notify the end user in accordance with the permittee's approved education and notification program of the treatment failures and advise the end user of precautions to be taken to protect public health when using the reclaimed water in areas accessible to the public or where human contact with the reclaimed water is likely. These precautions shall be implemented for a minimum of seven days. Where reclaimed water service to end users will be interrupted due to planned causes, such as scheduled repairs, the permittee shall provide advance notice to end users of the anticipated date and duration of the interrupted service. Where reclaimed water service to end users is disrupted by unplanned causes, such as an upset at the reclamation system, the permittee shall notify end users and the affected public of the disrupted service if it can not or will not be restored within eight hours of discovery.

The permittee shall also describe and report all notifications of end users and the affected public for causes described above in accordance with Part IV.B.32.

32. New End Users.

For the addition of new end users not contained in the original reclaimed water management (RWM) plan submitted with the application for a permit, the permittee shall submit to the DEQ-NRO an amendment to the RWM plan identifying new end users not less than 30 days prior to connection and reclaimed water service to these users. For each new end user, the permittee shall also provide all applicable information required by the Water Reclamation and Reuse Application Addendum.

33. Interruption of Reclaimed Water Supply.

For each interruption or loss of reclaimed water supply, the permittee shall report to the DEQ-NRO in writing the following information by the 10th of the month following the month in which the interruption or loss of reclaimed water supply occurs:

- a. The service area affected by the interruption or loss of reclaimed water supply;
- b. The initial date and time of the interruption or loss of reclaimed water supply and duration;
- c. The cause of interruption or loss of reclaimed water supply, additionally indicating whether the cause was planned or unplanned; and
- d. If the interruption was unplanned, describe the steps taken to correct the problem and to prevent the problem from recurring.

Each discharge of any untreated or partially treated water to the service area of intended reuse that fails to comply with reclaimed water standards contained in Part IV.A shall be reported by the permittee as a noncompliance in accordance with Part II.I of this permit.

34. Recordkeeping.

In addition to records specified in Part II.B of the VPDES permit, the permittee shall maintain the following at the reclamation system for the period specified in Part II.B:

- a. Water reclamation and reuse operating records to include all analyses required for reclaimed water in Part IV.A of this permit, records of operational problems, alarm failures, unit process and equipment breakdowns, diversions to reject storage or emergency storage, discharge to another permitted reuse system requiring a lower level of treatment, or disposal via a permitted effluent discharge; and all corrective or preventive action taken.
- b. A monthly summary of the operating records specified in a. of this condition.

35. Annual Water Reclamation and Reuse Report.

The permittee shall submit an annual report for the reclaimed water distribution system covering a 12-month period from January 1 through December 31 to the DEQ-NRO on or before February 10 of the following year. The annual report shall, at a minimum, include:

- a. The estimated volume of reclaimed water distributed to the service area of the RWM plan, reported as monthly totals; and

- b. A summary of ongoing education and notification program activities. The summary shall include, at a minimum:
 - (1) Copies of educational materials,
 - (2) The number and duration of notifications to end users per month for the following causes:
 - (a) More than one treatment failure within a 7-day period at the reclamation system with subsequent discharge to the reclaimed water distribution system,
 - (b) Planned disruption of reclaimed water service to end users, and
 - (c) Unplanned disruption of reclaimed water service to end users.

36. Determining Supplemental Irrigation Rates.

Prior to commencing bulk irrigation reuse, the permittee shall submit for review and approval to DEQ-NRO the method for determining the supplemental irrigation rate.

37. Notification Requirements.

The permittee shall have procedures in place to notify Fairfax Water, DEQ-NRO, and the Virginia Department of Health of any release from the reclaimed water distribution system within 24 hours of the release. The notification shall include the location of the release and the estimated volume released.